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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/973,114	10/10/2001	Shuichi Takeuchi	P21220	4678

7055 7590 09/23/2003

GREENBLUM & BERNSTEIN, P.L.C.  
1950 ROLAND CLARKE PLACE  
RESTON, VA 20191

EXAMINER

RAIZEN, DEBORAH A

ART UNIT	PAPER NUMBER
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2873

DATE MAILED: 09/23/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No.	Applicant(s)	
	09/973,114	TAKEUCHI ET AL.	
	Examiner	Art Unit	
	Deborah A. Raizen	2873	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 07 July 2003.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1 and 3-15 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1 and 3-11 is/are allowed.
- 6) ☒ Claim(s) 12-15 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 10 October 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____  |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                         | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) <u>5</u> . | 6) <input type="checkbox"/> Other:  |

## **DETAILED ACTION**

### ***Information Disclosure Statement***

1. Examiner reviewed Takeuchi et al. (2002/0060972 A1, disclosed as application 09/962301 in paper #3) again. No double patenting problem is apparent with the claims of the current application. In particular, the claims of the cited application do not have the limitation that the diffraction lens structure is configured to compensate for variation of a converging characteristic of the objective lens due to a change of a temperature (this functional limitation implies a structural limitation).
2. The other references cited in paper #3 and paper #5 have been considered as indicated on the forms PTO-1449.

### ***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 12-15 are rejected under 35 U.S.C. 102(e) as being unpatentable over Kimura et al. (US 2002/0012313 A1, cited in applicants' supplemental IDS, paper #5). In regard to claim

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12, Kimura discloses an optical system of an optical head for an optical disc drive (Fig. 1), comprising:

a laser source unit (including light sources 11 and 12) that emits a laser beam (last four lines of paragraph [0461]); and

a single element objective lens (3) that converges a laser beam emitted by said laser source unit (Fig. 1) on a data recording surface of an optical disc (23 or 24) through a protective layer of the optical disc (Fig. 1), wherein one surface of said objective lens is divided into a central area including an optical axis of said objective lens (b1 in Figs. 39(a) and 39(b)) and a peripheral area surrounding said central area (b2-b4), said peripheral area being provided with a diffraction lens structure formed by a plurality of concentric annular zones including minute steps (line 3 of [0151], [0421] and first three lines of [0462]), said diffraction lens structure being configured to compensate for variation of converging characteristic of said objective lens due to a change of a temperature ([0374] and [0425]); wherein said laser source unit selectively emits one of a first laser beam and a second laser beam ([0461]), a wavelength of said second laser beam being longer than a wavelength of said first laser beam ([0461]), said second laser beam being incident on said objective lens as a diverging beam (broken line in Fig. 1 and [0460-0461]), said first laser beam (solid line in Fig. 1, [0460-461]) being incident on said objective lens as a beam having less divergence than said second laser beam (Fig. 1), said objective lens converging the first laser beam on a data recording surface of a first optical disc (24) through a first protective layer of the first optical disc (Fig. 1), said objective lens converging the second laser beam on a data recording surface of a second optical disc (23) through a second protective layer of the second optical disc (Fig. 1), a data density of the first optical disc being higher than a

data density of the second optical disc (line 8 of [0002] and line 10-18 of [0007]), a thickness of the first protective layer being smaller than a thickness of the second protective layer (Fig. 1 and [0007]).

5. In regard to claim 13, in the Kimura optical system, the central area is formed as a continuous surface having no stepped portions (Figs. 39(a) and 39(b)).

6. In regard to claim 14, in the Kimura optical system, a wavelength of the laser beam emitted by said laser source unit increases when the temperature increases (inherent in the type of lasers used in these systems, as disclosed in Kiriki et al., of record, col. 10, lines 24-25), and wherein said objective lens is formed of plastic ([0166]), a refractive index of which being lowered when the temperature increases (inherent for a plastic lens, as admitted in the present specification in "Background of the Invention", p. 1, lines 6-7, paragraph [004]).

7. In regard to claim 15, in the Kimura optical system, the diffraction lens structure has a characteristic in terms of a spherical aberration such that the spherical aberration of said objective lens changes in an under corrected direction when a wavelength of the laser beam incident on said objective lens increases (lines 19-22 of [0425]).

***Allowable Subject Matter***

8. Claims 1 and 3-11 are allowed.

9. The following is an examiner's statement of reasons for allowance: The reasons are clear from the record. Also, although Kimura discloses that the surface of the objective lens may be divided into different areas, it does not disclose that the area of the peripheral area is not greater than the area of the central area (the limitation added to base claims 1, 5, and 7).

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

### ***Conclusion***

10. Applicant's submission of an information disclosure statement under 37 CFR 1.97(c) with the fee set forth in 37 CFR 1.17(p) on February 19, 2003, prompted the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 609(B)(2)(i). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

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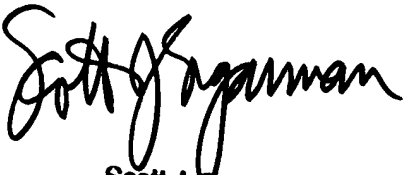
however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Deborah A. Raizen whose telephone number is (703) 305-7940. The examiner can normally be reached on Monday-Friday, from 9:30 a.m. to 2:30 p.m. EST (a part-time schedule).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Georgia Y. Epps can be reached on (703) 308-4883. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

dar

  
Scott J. Sugarman  
Primary Examiner